We Claim:

1. A method for measuring data quality of service in a traffic wireless network comprising the steps of:

    sending command information related to data quality of service measurements;

    performing measurements to produce measurement information in relation to said command information; and

    receiving response information in relation to said measurement information and said command information.

2. The measuring method of claim 1, wherein said sending step uses a wireless link.

3. The measuring method of claim 1, wherein said sending step uses a CDPD link.

4. The measuring method of claim 1, wherein said sending step uses a wireless LAN link.

5. The measuring method of claim 1, wherein said sending step uses a wired link.

6. The measuring method of claim 1, wherein said receiving step uses a

60

2   wireless link.

3

1   7. The measuring method of claim 1, wherein said receiving step uses a

2   CDPD link.

3

1   8. The measuring method of claim 1, wherein said receiving step uses a

2   wireless LAN link.

3

1   9. The measuring method of claim 1, wherein said receiving step uses a

2   wired link.

3

1   10. The measuring method of claim 1, wherein said performing step produces

2   measurement information related to circuit switched data.

3

1   11. The measuring method of claim 1, wherein said performing step produces

2   measurement information related to packet data.

3

1   12. The measuring method of claim 1, wherein said performing step produces

2   measurement information related to SMS messages.

3

1   13. The measuring method of claim 1, wherein said performing step produces

2   measurement information related to wireless Internet access.

3

14. The measuring method of claim 1, wherein said performing step produces
    measurement information related to wireless Internet transactions.

15. The measuring method of claim 14, wherein wireless Internet transactions
    are e-commerce transactions.

16. The measuring method of claim 1, wherein said performing step produces
    measurement information related to push data.

17. The measuring method of claim 1, wherein said performing step produces
    measurement information related to latency.

18. The measuring method of claim 1, wherein said performing step produces
    measurement information includes Layer 3 network information.

19. The measuring method of claim 1, wherein said performing step produces
    measurement information includes RF information.

20. The measuring method of claim 1, wherein said performing step produces
    measurement information includes call connection information.

21. The measuring method of claim 1, wherein said performing step
    produces measurement information related to iDEN.

3

1 22. The measuring method of claim 1, wherein said performing step produces

2 measurement information related to CDMA.

3

1 23. The measuring method of claim 1, wherein said performing step produces

2 measurement information related to TDMA.

3

1 24. The measuring method of claim 1, wherein said performing step produces

2 measurement information related to AMPS.

3

25. The measuring method of claim 1, comprising the further step of:

2 ˙ monitoring WAP gateway functions.

3

1 26. The measuring method of claim 1, comprising the further step of:

2 benchmarking in relation to a WAP gateway.

3

1 27. The measuring method of claim 1, comprising the further step of:

2 accessing a portal from the Internet for said command information

3 and said measurement information.

4

1 28. The measuring method of claim 1, comprising the further step of:

2 scheduling missions related to said command information.

3

1   29. The measuring method of claim 1, comprising the further step of:

2   generating test traffic related to said measurement information.

3

1   30. The measuring method of claim 1, comprising the further step of:

2   storing said control information at a remote unit.

3

1   31. The measuring method of claim 1, comprising the further step of:

2   storing said measurement information at a remote unit.

3

1   32. The measuring method of claim 1, comprising the further step of:

2   pre-processing said measurement information at a remote unit.

3

1   33. The measuring method of claim 1, comprising the further step of:

2   post-processing said measurement information at a back end

3   processor.

4

1   34. The measuring method of claim 1, comprising the further step of:

2   organizing remote unit data, related to said command information,

3   at a back end processor

4

1   35. The measuring method of claim 1, wherein said sending step includes

2   sending said command information from a back end processor to at least

3   one of a plurality of remote unit.

4

1   36. The measuring method of claim 1, wherein said performing step includes

2   performing said measurements using one of a plurality of remote units.

3

1   37. The measuring method of claim 1, wherein said receiving step includes

2   receiving said response information at a back end processor from at least

3   one of a plurality of remote units.

4

1   38. A measuring system for measuring data quality of service on at least one

2   traffic wireless network, comprising:

3   a back end processor for controlling the measuring system;

4   a plurality of remote units, in communication with said back end

5   processor via a control link, for performing measurements on the at least

6   one traffic wireless network.

7

1   39. The measuring system of claim 38, wherein said back end processor

2   includes a fleet management element for managing said plurality of

3   remote units.

4

1   40. The measuring system of claim 38, wherein said back end processor

2   includes a test traffic generator for generating test traffic for said plurality

3   of remote units.

4

41. The measuring system of claim 38, wherein said back end processor includes a post processor for post processing data collected from said plurality of remote units.

42. The measuring system of claim 38, wherein said back end processor includes a portal for allowing customer access through the Internet.

43. The measuring system of claim 42, wherein said portal includes a mapping element for combining mapping information with post processed data from said plurality of remote units.

44. The measuring system of claim 38, wherein each of said plurality of remote units includes a control unit for controlling said remote unit.

45. The measuring system of claim 44, wherein said control unit is a portable computer.

46. The measuring system of claim 44, wherein said control unit is a single board computer.

47. The measuring system of claim 38, wherein each of said plurality of remote units includes a location unit for providing position information.

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1   48. The measuring system of claim 47, wherein said location unit is a GPS

2   receiver.

3

1   49. The measuring system of claim 38, wherein each of said plurality of

2   remote units includes a control link modem for communicating via said

3   control link with said back end processor.

4

1   50. The measuring system of claim 49, wherein said control link modem is a

2   CDPD modem.

3

1   51. The measuring system of claim 49, wherein said control link modem is a

2   software-defined radio modem.

3

1   52. The measuring system of claim 49, wherein said control link modem is a

2   wired modem.

3

1   53. The measuring system of claim 49, wherein each of said plurality of

2   remote units includes at least one traffic modem for performing said

3   measurements on a respective traffic wireless network of the at least one

4   traffic wireless network.

5

1   54. The measuring system of claim 53, wherein a respective traffic modem of

2   said at least one traffic modem is said control link modem.

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55. The measuring system of claim 53, wherein a respective traffic modem of said at least one traffic modem is a modem module.

56. The measuring system of claim 53, wherein a respective traffic modem of said at least one traffic modem is a cellular phone.

57. The measuring system of claim 53, wherein a respective traffic modem of said at least one traffic modem is a software-defined radio.

58. The measuring system of claim 53, wherein a respective traffic modem of said at least one traffic modem is an iDEN modem.

59. The measuring system of claim 53, wherein a respective traffic modem of said at least one traffic modem is a CDMA modem.

60. The measuring system of claim 53, wherein a respective traffic modem of said at least one traffic modem is a TDMA modem.

61. The measuring system of claim 53, wherein a respective traffic modem of said at least one traffic modem is a GSM modem.

62. The measuring system of claim 38, wherein said measurements are

2   performed on circuit switched data.

3

1   63. The measuring system of claim 38, wherein said measurements are

2   performed on packet data.

3

1   64. The measuring system of claim 38, wherein said measurements are

2   performed on SMS messages.

3

1   65. The measuring system of claim 38, wherein said measurements are

2   performed on wireless Internet access.

3

1   66. The measuring system of claim 38, wherein said measurements are

2   performed on wireless Internet transactions.

3

1   67. The measuring system of claim 38, wherein said measurements are

2   performed on wireless Internet e-commerce transactions.

3

1   68. The measuring system of claim 38, wherein said measurements are

2   performed on push data.

3

1   69. The measuring system of claim 38, wherein said measurements include

2   latency measurements.

3

1   70. The measuring system of claim 38, wherein said measurements include

2   data reliability.

3

1   71. The measuring system of claim 38, wherein said measurements include

2   Layer 3 network information.

3

1   72. The measuring system of claim 38, wherein said measurements include

2   RF information.

3

1   73. The measuring system of claim 38, wherein said measurements include

2   call connection information.

3

1   74. The measuring system of claim 38, wherein each of said plurality of

2   remote units includes a plurality of traffic modems for performing said

3   measurements on the at least one traffic wireless network.

4

1   75. The measuring system of claim 38, wherein each of said plurality of

2   remote units includes a battery backup for providing backup battery

3   power.

4

1   76. The measuring system of claim 38, wherein each of said plurality of

2   remote units includes an external storage for storing at least one of said

3   measurements.

77. The measuring system of claim 38, wherein each of said plurality of remote units includes a wireless LAN device for communicating with said back end processor.

78. The measuring system of claim 38, wherein each of said plurality of remote units includes an RF scanner for measuring the at least one traffic wireless network.

79. The measuring system of claim 78, wherein said RF scanner is a software-defined radio.

80. The measuring system of claim 38, further comprising:

a WAP monitor for monitoring WAP gateway functions.

81. The measuring system of claim 38, further comprising:

a WAP benchmarker for benchmarking in relation to a WAP gateway.

82. The measuring system of claim 38, wherein at least one of said plurality of remote units is stationary.

83. The measuring system of claim 38, wherein at least one of said plurality

2   of remote units is mobile.

3

1   84. The measuring system of claim 38, wherein all of said plurality of remote

2   units, within a geographic area, are stationary.

3

1   85. The measuring system of claim 38, wherein said control link is wired.

2

1   86. The measuring system of claim 38, wherein said control link is wireless.

2

1   87. The measuring system of claim 38, wherein said control link is wired and

2   wireless.

3

1   88. The measuring system of claim 38, wherein said control link uses a

2   wireless standard in relation to a geographic area of the associated

3   remote units.

4

1   89. A remote unit, which is one of a plurality of remote units that

2   communicates with a back end processor, for measuring data quality of

3   service on at least one traffic wireless network, comprising:

4   a control unit for controlling said remote unit;

5   a location unit for providing position information;

6   a control link modem for communicating via a control link with the

7   back end processor; and

8   at least one traffic modem for performing measurements on a

9   respective traffic wireless network of the at least one traffic wireless

10   network.

11

1   90. The remote unit of claim 89, wherein said control unit is a portable

2   computer.

3

1   91. The remote unit of claim 89, wherein said control unit is a single board

2   computer.

3

1   92. The remote unit of claim 89, wherein said location unit is a GPS receiver.

2

1   93. The remote unit of claim 89, wherein said control link modem is a CDPD

2   modem.

3

1   94. The remote unit of claim 89, wherein said control link modem is a

2   software-defined radio modem.

3

1   95. The remote unit of claim 89, wherein said control link modem is a wired

2   modem.

3

1   96. The remote unit of claim 89, wherein each traffic modem of said at least

2   one traffic modem performs measurements on a respective traffic wireless

3 network of the at least one traffic wireless network.

4

97. The remote unit of claim 89, wherein a respective traffic modem of said at

2   least one traffic modem is said control link modem.

3

1 98. The remote unit of claim 89, wherein a respective traffic modem of said at

2   least one traffic modem is a modem module.

3

1 99. The remote unit of claim 89, wherein a respective traffic modem of said at

2   least one traffic modem is a cellular phone.

3

1 100.   The remote unit of claim 89, wherein a respective traffic modem of

2   said at least one traffic modem is a software-defined radio.

3

1 101.   The remote unit of claim 89, wherein a respective traffic modem of

2   said at least one traffic modem is an iDEN modem.

3

1 102.   The remote unit of claim 89, wherein a respective traffic modem of

2   said at least one traffic modem is a CDMA modem.

3

1 103.   The remote unit of claim 89, wherein a respective traffic modem of

2   said at least one traffic modem is a TDMA modem.

3

1   104.   The remote unit of claim 89, wherein a respective traffic modem of

2   said at least one traffic modem is a GSM modem.

3

1   105.   The remote unit of claim 89, wherein said measurements are

2   performed on circuit switched data.

3

1   106.   The remote unit of claim 89, wherein said measurements are

2   performed on packet data.

3

1   107.   The remote unit of claim 89, wherein said measurements are

2   performed on SMS messages.

3

1   108.   The remote unit of claim 89, wherein said measurements are

2   performed on wireless Internet access.

3

1   109.   The remote unit of claim 89, wherein said measurements are

2   performed on wireless Internet transactions.

3

1   110.   The remote unit of claim 89, wherein said measurements are

2   performed on wireless Internet e-commerce transactions.

3

1   111.   The remote unit of claim 89, wherein said measurements are

2   performed on push data.

112. The remote unit of claim 89, wherein said measurements include latency measurements.

113. The remote unit of claim 89, wherein said measurements include data reliability.

114. The remote unit of claim 89, wherein said measurements include Layer 3 network information.

115. The remote unit of claim 89, wherein said measurements include RF information.

116. The remote unit of claim 89, wherein said measurements include call connection information.

117. The remote unit of claim 89, wherein each of said plurality of remote units includes a battery backup for providing backup battery power.

118. The remote unit of claim 89, further comprising:

an external storage for storing at least one of said measurements.

119.   The remote unit of claim 89, further comprising:

       a wireless LAN device for communicating with the back end

processor.

120.   The remote unit of claim 89, further comprising:

       an RF scanner for measuring the at least one traffic wireless

network.

121.   The remote unit of claim 120, wherein said RF scanner is a

software-defined radio.

122.   The remote unit of claim 89, wherein said remote unit is stationary.

123.   The remote unit of claim 89, wherein said remote unit is mobile.

124.   The remote unit of claim 89, wherein said control link is wired.

125.   The remote unit of claim 89, wherein said control link is wireless.

126.   The remote unit of claim 89, wherein said control link uses a

wireless standard in relation to a geographic area of the associated

remote unit.

1   127. A method for measuring data quality of service in a traffic wireless

2   network using a back end processor and plural remote units, the method

3   comprising:

4   sending command information from the back end processor to at

5   least two of the plural remote units, the command information being

6   related to data quality of service measurements;

7   performing measurements on the traffic wireless network, using the

8   at least two of the plural remote units, to produce measurement

9   information in relation to said command information; and

10   receiving response information at the back end processor from the

11   at least two of the plural remote units, said response information being in

12   relation to said measurement information and said command information;

13   wherein said response information provides a measure of data

14   quality of service in the traffic wireless network.

15

1   128. A method for measuring data quality of service in a traffic wireless

2   network, the method comprising:

3   receiving command information related to data quality of service

4   measurements sent from a back end processor;

5   performing one or more measurements of performance in the traffic

6   wireless network to produce measurement information in relation to said

7   command information; and

8   sending response information in relation to said measurement

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9   information and said command information to the back end processor.

10

1   129. A method for producing a measurement result that is indicative of

2   data quality of service in a traffic wireless network, the method comprising:

3   sending command information to plural remote units, said

4   command information being related to data quality of service

5   measurements;

6   receiving response information from the plural remote units, said

7   response information being in relation to said command information and

8   measurements performed on the traffic wireless network via the plural

9   remote units; and

10   generating a measurement result based on said response

11   information.

12

1   130. A system for assessing data quality of service on a wireless network,

2   the system comprising:

3   means for obtaining measurements, at a statistically significant number of

4   locations, of a performance parameter on the wireless network; and

5   means for consolidating information indicative of the measurements

6   obtained by the means for obtaining;

7   wherein the information consolidated by the means for consolidating

8   provides an assessment of data quality of service on the wireless network.

9

1   131. The system of claim 130, wherein the means for obtaining

2   measurements comprises plural remote units.

3

1   132. The system of claim 131, wherein a portion of the plural remote units

2   are mobile units.

3

1   133. The system of claim 131, wherein substantially all of the plural

2   measurement units are mobile units.

3

1   134. The system of claim 131, wherein substantially all of the plural

2   measurement units are stationary units.

3

1   135. The system of claim 130, wherein the means for consolidating

2   comprises a back end processor.

3

1   136. The system of claim 130, wherein the means for obtaining

2   measurements performs the function of obtaining measurements in response to

3   command information received from the means for consolidating.

4

1   137. A device for obtaining measurements indicative of data quality of

2   service for a wireless network providing data service, the device comprising:

3   a control link modem providing communications with a back end

4   processor;

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5   a traffic modem providing communications via the wireless network;

6   a location unit providing position information; and

7   a computer, the computer comprising:

8   a processor in communication with the control link modem and

9   the traffic modem, and being connected to the location unit, and

10   a memory, connected to the processor, bearing software

11   instructions adapted to enable the computer to perform the steps of:

12   receiving command information from the back end processor;

13   sending test traffic over the wireless network based on the

14   command information received from the back end

15   processor;

16   receiving response traffic over the wireless network in reply to

17   the test traffic;

18   recording measurement information comprising information

19   regarding the test traffic, the response traffic, and

20   location information contemporaneous with the step of

21   receiving response traffic; and

22   sending the recorded measurement information to the back end

23   processor.

24

1   188. A device for obtaining measurements indicative of data quality of

2   service for a wireless network providing data service, the device comprising:

3   a control link modem providing communications with a back end

4   processor;

5   a traffic modem providing communications via the wireless network;

6   a location unit providing position information; and

7   a computer, the computer comprising:

8   a processor in communication with the control link modem and

9   the traffic modem, and being connected to the location unit, and

10   a memory, connected to the processor, bearing software

11   instructions adapted to enable the computer to perform the steps of:

12   receiving command information from the back end processor;

13   receiving test traffic over the wireless network;

14   recording measurement information comprising information

15   regarding the test traffic and location information

16   contemporaneous with the step of receiving test traffic;

17   and

18   sending the recorded measurement information to the back end

19   processor.

20

1   139. A device for obtaining measurements indicative of data quality of

2   service for a wireless network providing data service, the device comprising:

3   a modem providing communications with a back end processor and

4   providing communications via the wireless network;

5   a location unit providing position information; and

6   a computer, the computer comprising:

7   a processor in communication with the modem and being

8   connected to the location unit, and

9   a memory, connected to the processor, bearing software

10   instructions adapted to enable the computer to perform the steps of:

11   receiving command information from the back end processor;

12   sending test traffic over the wireless network based on the

13   command information received from the back end

14   processor;

15   receiving response traffic over the wireless network in reply to

16   the test traffic;

17   recording measurement information comprising information

18   regarding the test traffic, the response traffic, and

19   location information contemporaneous with the step of

20   receiving response traffic; and

21   sending the recorded measurement information to the back end

22   processor.

23

1   140. A device for obtaining measurements indicative of data quality of

2 service for a wireless network providing data service, the device comprising:

3   a modem providing communications with a back end processor and

4 providing communications via the wireless network;

5   a location unit providing position information; and

6   a computer, the computer comprising:

7   a processor in communication with the modem and being

8   connected to the location unit, and

9   a memory, connected to the processor, bearing software

10   instructions adapted to enable the computer to perform the steps of:

11   receiving command information from the back end processor;

12   receiving test traffic over the wireless network;

13   recording measurement information comprising information

14   regarding the test traffic and location information

15   contemporaneous with the step of receiving test traffic;

16   and

17   sending the recorded measurement information to the back end

18   processor.

19

1   141. A method of conducting commerce, the method comprising:

2   performing measurements on a wireless network, the measurements

3   being indicative of data quality of service for the wireless network;

4   consolidating the performed measurements at a back end processor to

5   form data quality of service information; and

6   providing the data quality of service information to a customer in exchange

7   for value.

8

1   142. The method of conducting commerce of claim 141, further

2   comprising:

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3   receiving a mission request from the customer, wherein the

4 measurements are performed in response to the mission request.

5

1   143. The method of conducting commerce of claim 141, wherein the

2 customer is a content provider.